

Appendix E

Chollas Creek Dissolved Metals TMDL Implementation Plans Updates

California Department of Transportation (Caltrans) Watershed Activities Reporting
Year 1, Phase I of the Chollas Creek Dissolved Metals TMDL Implementation Plan

Activity Name (Project #)	Project Description	Current Status (Planning or Implementation)	Outcome Levels(s)	Assessment Mechanisms	Activity Results and Updates
Activities For Current Reporting Year					
Tier I Facilities Pollution Prevention Plan	Annual inspection of Caltrans maintenance stations for storm water compliance.	Implementation	Level 4	Are there deficiencies in our maintenance facilities where potential pollutants discharged may reach the creek?	Caltrans has one bridge paint maintenance station in the watershed and the results of the inspection conducted on 9/29/09 showed no deficiencies.
Tier II Chollas Watershed sweeping	Sweeping effort in the watershed, especially in priority sectors before the start of the rainy season and before rain events. Efforts to be coordinated with our maintenance staff.	Implementation	Level 4 Level 5	How many miles are swept per year and how much material is swept?	Maintenance crews sweep the freeways twice a month. Number of miles swept in watershed (freeway in both directions) (FY 08-09) =approximately 40.8 miles Materials removed (FY 08-09)=approximately 11 cubic yards based on the district average materials in cubic yards swept per lane mile in San Diego County.
Tier II Homeless Encampment Removal	Eradicate illegal human encampment under bridges along the freeways within the Chollas watershed by paving under bridges and placing cobbles to reduce bacteria, metals and trash loading.	Implementation	Level 4	How many homeless encampments have been removed?	A project has been completed under I-5/SR-94 Viaduct. The project placed concreted rock slope protection under the bridge.
Tier II Collaborative Special Study (Jurisdictional Boundary Monitoring in the Upper Watershed)	Storm water monitoring will be conducted during two storm events during the 2009-2010 wet weather monitoring period. Monitoring will be conducted simultaneously at the two compliance monitoring stations SD8(1) and DPR2. Flow weighted composite samples will be analyzed for organophosphate pesticides (Diazinon and Chlorpyrifos), organochlorine pesticides (Chlordane), PAHs, PCBs, total hardness, and dissolved copper, lead, and zinc, and acute and chronic toxicity to <i>Ceriodaphnia dubia</i> .	Planning	Level 1	What are the pollutant loads at the jurisdictional boundaries? Can those loads be linked to near by sources?	Monitoring will start in the 09/10 rainy season. Results will be provided as part of next year's WURMP.
Tier II Collaborative Special Study (Activity Assessment Grab Samples for Metals)	Activity assessment grab samples will be collected for source identification studies or for BMP assessments. Samples will be collected from specific land use areas in each priority sector during one wet weather event. Specific locations will be pre-determined prior to the storm monitoring season based on land use, activities, or BMPs and will be decided by the participating Dischargers. Samples will be analyzed for total and dissolved metals, TSS, and hardness.	Planning	Level 1	What's a typical runoff concentration form a specific jurisdiction? What's the pollutant removal effectiveness of a pilot BMP project?	Monitoring will start in the 09/10 rainy season. Results will be provided as part of next year's WURMP.

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Tier II Collaborative Special Study (Bacteria Monitoring)	Samples will be collected and analyzed for total coliform, fecal coliform, and <i>enterococci</i> during storm events at SD8(1) and DPR2 (three storms) and LM-1 and LG-1 (two storms). Samples will be collected as grab samples during the peak flow of the storm event.	Planning	Level 1	What's the bacteria concentration at the jurisdictional boundaries and the two required monitoring stations?	Monitoring will start in the 09/10 rainy season. Results will be provided as part of next year's WURMP.
Ongoing Agency Wide Activities					
Tier I Brake Pad Partnership (BPP)	Caltrans funded work consisting of a watershed modeling effort conducted as part of a larger study examining the potential impact of copper from brake pad wear and debris released to the environment. The objective of the environmental transport and fate modeling is to predict how copper released from brake pads enters the bay and affects both the short-term and long-term concentrations of copper in the bay.	Implementation	Level 4	Are there new products that can replace the current products used for making brake pads?	Caltrans continues to fund the watershed modeling component of the BPP's technical studies and is working with the BPP to augment the modeling efforts of copper in highway environments. Results of the study will benefit in reducing copper concentration in the creek.
Tier I Don't Trash California	Using a comprehensive, multicultural approach, the <i>Don't Trash California</i> campaign targets primary offenders of highway littering, as well as the general public, to create a social mindset in California that this State does not tolerate polluting our freeways and highways. The campaign will implement proven strategies in the Chollas Creek Watershed, including billboard, bus advertising, partnerships and community outreach to raise the level of awareness of the effects of littering and encourage the public to avoid littering.	Implementation	Level 2 Level 3	How many events did Caltrans participate in within the watershed? How much public education materials were distributed to sponsors in the watershed?	Caltrans participated in one event in the watershed (Walk the Watershed 2009 Chollas Creek) sponsored by San Diego Coast Keepers and Groundwork San Diego-Chollas Creek on March 7 th , 2009 . The following "Don't Trash California" collateral items were given to Groundwork San Diego-Chollas Creek for distribution at this events and ongoing education programs: 50 car air fresheners 40 7" x 3" magnets 1 litter bugs poster 100 litter bugs reminder cards 2 blocks of tattoos 1 roll of litter bags 1 box of pens in English 1 box of pens in Spanish 100 each Activity books in Spanish and English 2 T-Shirts (adult size) 10 large & 10 medium trash can stickers
Tier II Ornamental Roadside Vegetated Treatment Sites (ORVTS) Study	The Ornamental Roadside Vegetated Treatment Sites (ORVTS) Pilot Study is comprised of two types of study sites: the Expanded Roadside Vegetated Treatment Sites (ERVTS) and the Groundcover Roadside Vegetated Treatment Sites (GRVTS). The ERVTS sites were constructed to expand the treatment strips at existing site locations of the original Roadside Vegetated Treatment Sites (RVTS) Pilot Study with new groundcover. Existing RVTS data will be utilized as a baseline condition, providing supplemental data on alternate vegetation types.	Planning	Level 1 Level 4 Level 6	For the ERVTS, how effective is the groundcover vegetation species at providing treatment of highway runoff and how do they compare in treatment potential to existing grass and forb vegetation within the Caltrans rights-of-way (ROW)?	The operation, maintenance and monitoring plan has been completed. 2 out of the 9 sampling sites were selected within the SD Region to be monitored for 2-3 years starting the rainy season of 09/10: <ul style="list-style-type: none"> I-5 at Carlsbad GRVTS swale SR-52 GRVTS Strip Flow weighed composite samples will be collected from up to twelve storms. Results of the monitoring could be beneficial in the implementation of BMPs in the Chollas watershed.

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Tier II Strom Water Monitoring and BMP Development Studies	Caltrans has an ongoing program to develop and monitor treatment BMPs and source control BMPs, as well as conduct storm water characterization studies. Treatment technology pilot studies are designed to gather definitive cost and performance data. Successfully piloted technologies may be considered for approval and listing in the Storm Water Management Plan (SWMP) as BMPs to be implemented in highway projects according to SWMP guidelines. Source control studies follow a similar process.	Implementation	Level 1 Level 4 Level 6	<p>What are the design criteria, Operations, maintenance & construction requirements, treatment effectiveness, costs, advantages and constraints?</p> <p>Treatment effectiveness is based on assessing the following parameters.</p> <ul style="list-style-type: none">• Sediment (total suspended solids [TSS])• Total nitrogen• Total phosphorus• Pesticides• Total metals• Dissolved metals• Microbiological (including pathogens)• Litter• Biochemical oxygen demand (BOD)• Total dissolved solids (TDS)	<p>The study results are being used by Caltrans to assess BMPs for pilot studies. If proven to be effective, BMPs will be approved for statewide use, including Chollas Creek Watershed. The study evaluated “171” BMPs based on design, operation, maintenance, construction, treatment effectiveness, costs, advantages and constraints. Specific BMPs are undergoing full scale pilot studies.</p> <p>For additional information, the report can be found at http://www.dot.ca.gov/hq/env/stormwater/annual_report/2008/annual_report_06-07/attachments/Treatment BMP Technology Rprt.pdf</p>
New Activities					

County of San Diego Watershed Activities Reporting
Year 1, Phase I of the Chollas Creek Dissolved Metals TMDL Implementation Plan

Activity Name (Project #)	Project Description	Current Status (Planning or Implementation)	Outcome Levels(s)	Assessment Mechanisms	Activity Results and Updates
Activities For Current Reporting Year					
Tier II Porous Pavement Project at Central Regional Public Health Facility Parking Lot	Removal and replacement of 14,000 square feet of existing impervious pavement with porous pavement and a stone reservoir to capture runoff from the parking lot at the Central Regional Public Health Facility.	Planning	Level 4	Water quality monitoring	This project is included in the San Diego IRWMP program and is awaiting distribution of Prop 50 funds. Due the State budget crisis this funding was frozen. This will affect the schedule of completion for the project. It is now estimated that the project will be completed by summer 2012.
Tier II Capture and Infiltration Project at Comprehensive Health Care Center	Installation of concrete detention/infiltration vaults or equivalent units under two parking lots at the Comprehensive Health Care Center.	Planning	Level 4	Water quality monitoring	This project is included in the San Diego IRWMP program and is awaiting distribution of Prop 50 funds. Due the State budget crisis this funding was frozen. This will affect the schedule of completion for the project. It is now estimated that the project will be completed by summer 2012.
Tier II Bioswales/ Rain Gardens at Dodson House	Installation of three bioswales and two rain gardens at the Dodson House.	Project has been deleted	Level 4	Water quality monitoring	This project was originally included in the San Diego IRWMP program, but since the property is no longer maintained by the County, it has been removed from IRWMP as a project.
Ongoing Agency Wide Activities					
Tier 1 Commercial Business Inspection & Enforcement	The County of San Diego performs routine inspection and enforcement of commercial businesses as part of its JURMP. There is one commercial business, a cemetery, within the County's portion of the Chollas Creek Watershed. It is inspected approximately annually, with follow ups and enforcement performed as necessary.	Implementation	Level 1 Programmatic Outcomes Level 3 Behavioral Modification	Level 1 # Inspections, # Violations Observed Level 3 # Corrective Actions Implemented	# Inspections – 2 # Violations Observed – 4 # Corrective Actions Implemented – 4
Tier 1 Municipal Facility Inspection & Audits	The County of San Diego performs routine inspection and audits of municipal facilities as part of its JURMP. There are seven* County-owned municipal facilities within the Chollas Creek Watershed. All facilities are inspected twice per year by the department responsible for facility operations. The Department of Public Works supplements routine inspections with periodic audits of facility operations.	Implementation	Level 1 Programmatic Outcomes Level 3 Behavioral Modification	Level 1: # Facilities Inspected, # Inspections, # Deficiencies Observed During Inspections, # Facilities Audited, # Audits, # Deficiencies Observed During Audits Level 3: # Corrective Actions Implemented Following Inspections, # Corrective Actions Implemented Following Audits	# Facilities Inspected – 7 # Inspections – 14 # Deficiencies Observed During Inspections – 10 # Corrective Actions Implemented Following Inspections – 10 # Facilities Audited – 6 # Audits – 6 # Deficiencies Observed During Audits – 12 # Corrective Actions Implemented Following Audits – 12 * The TMDL Implementation Plan indicated that there were 8 County-owned municipal facilities in the Chollas Creek Watershed. The La Mesa Library has recently been removed from the County's inventory because it is now owned and operated by the City of La Mesa.
New Activities					

Activity Name (Project #)	Project Description	Current Status (Planning or Implementation)	Outcome Levels(s)	Assessment Mechanisms	Activity Results and Updates

City of La Mesa Watershed Activities Reporting
Year 1, Phase I of Chollas Creek Dissolved Metals TMDL Implementation Plan

Activity Name (Project #)	Project Description	Current Status (Planning or Implementation)	Outcome Levels(s)	Assessment Mechanisms	Activity Results and Updates
Activities For Current Reporting Year					
Tier I Code Modification	Code update/regulations pertaining to Chollas Watershed. For example, new businesses along University Channel will be required to consider BMPs associated with the pollutants identified in the TMDL.	Planning	Level 1: Completion of Code Modification	Code Adoption and Assessment Report.	The code update related to the Chollas Creek Watershed is scheduled to occur in FY 09/10.
Tier II Collaborative Special Study #1 Jurisdictional Boundary Monitoring in the Upper Watershed	Storm water monitoring will be conducted during two storm events during the 2009-2010 wet weather monitoring period. Monitoring will be conducted simultaneously at the two compliance monitoring stations SD8(1) and DPR2. Flow weighted composite samples will be analyzed for organophosphate pesticides (Diazanone and Chlorpyrifos), organochlorine pesticides (Chlordane), PAHs, PCBs, total hardness, and dissolved copper, lead, and zinc and acute and chronic toxicity to <i>Ceriodaphnia dubia</i> . In collaboration with City of San Diego, City of Lemon Grove, and Caltrans.	Planning	Level 1: Completion of Study and Final Report	Completed study and final report prepared by the City of San Diego's Consultant.	Monitoring will occur during the 09/10 rainy season.
Tier I Residential Educational Kiosk Pilot Study	Educational material about the water quality problems in the Chollas Creek Watershed (Watershed Fact Sheet) will be posted in a specially designed kiosk at Vista La Mesa Park. La Mesa may implement additional educational kiosks at other locations in the future. Collaboration with City of San Diego- Project assessment using survey data for watershed advertisement.	Implementation	Level 2: Change in awareness	City data obtained from residents regarding change of watershed awareness from kiosk fact sheet displays.	Kiosk at Vista La Mesa Park has been constructed and is displaying watershed related information. The City of La Mesa has not begun collecting data regarding change is awareness from information displayed in kiosks. Scheduled for FY 09-10.
Tier II Residential Schools Education and Outreach Program	Education and outreach program at local schools within the Chollas Creek Watershed in partnership with the I Love A Clean San Diego. This program will be implemented at La Mesa Dale Elementary, La Mesa Middle School, and Mt. Helix High School.	Implementation	Level 2: Change in awareness Level 3: Modification of behavior through education and outreach	# of outreach events held (children educated) Survey Results	6 outreach presentations were conducted with 166 children educated. Overall weighted pre test score= 64% Overall weighted post test score = 87% 5/19/09 Mt. Helix High School: 2 presentations, 80 persons, Pre Test: N/A, Post Test 96% 5/27/09 La Mesa Dale Elementary: 1 presentations, 28 persons, Pre Test: N/A, Post Test 70% 5/27/09 La Mesa Middle School: 2 presentations, 30 persons, Pre Test: 69%, Post Test 80% 5/28/09 La Mesa Dale Elementary: 1 presentations, 80 persons, Pre Test: 58%, Post Test 80%

Activity Name (Project #)	Project Description	Current Status (Planning or Implementation)	Outcome Levels(s)	Assessment Mechanisms	Activity Results and Updates
Tier II Roads, Commercial Metals Source ID Study	This source ID study includes an assessment of urban runoff from a major, mixed use parking lot in La Mesa (super market with additional shops). The load contribution of the parking will be also assessed. This project includes an education and outreach component to open dialogue with property management.	Planning	Level 1: Completed study (understanding of metals sources) Level 2: Change in awareness	Completed study and final report.	Wet weather water quality sampling for Copper, Lead, Zinc, Hardness and TSS was completed at the selected location (Vons Shopping Center , University Ave) was performed in 11/08. Further analysis and education/outreach is scheduled for FY 09/10, and FY 10/11.
Tier III Roads, Residential, Industry, Commercial, Eating/Drinking Bacteria Treatment Insert Pilot Study	Selected catch basins in the Chollas Creek Watershed will be retrofitted with a treatment sponge insert. The number of these inserts (and bacteria sponges) is still to be determined.	Planning	Level 4: Load reduction	Load Reduction based on amount associated with bacteria sponges.	Planned for approximate implementation date of FY11/12.
Ongoing Agency Wide Activities					
Tier II Residential, Commercial Clean Up Events	Cleanup Events will be held twice a year at University Channel (Creek to Bay Clean Up and the California Coastal Day). Each event will include an education and outreach component.	Implementation	Level 2: Public Awareness Level 3: Modification of Behavior Level 4: Runoff and Load Reductions	# of participants Trash Load Reduction Educational Survey	Events held at University Channel: coord. (32.7551, -117.0412) 9/20/08 Costal Clean Up Day: 12 participants, 82 lbs removed, Pre Test 73%, Post Test 95% 4/18/09 Creek to Bay Cleanup: 11 participants, 109 lbs removed, Pre Test 75%, Post Test 84%
Tier I Auto, Roads, Industrial, Commercial, Eating/Drinking Enforcement: Targeted Facility Inspections	Annual business inspections will include a supplemental questionnaire specific to the Chollas Creek Watershed and targeting businesses along University Channel.	Implementation	Level 1: Completion of Inspections Level 2: Public Awareness	# of inspections within the Chollas Creek watershed which included the supplemental watershed questionnaire. # of businesses within the Chollas Creek watershed which implemented corrective actions based on the inspection.	20 Inspections completed within the Chollas Creek watershed which included the supplemental watershed questionnaire. 7 businesses within the Chollas Creek watershed took corrective actions based on the results of the inspections.
New Activities					
N/A					

City of Lemon Grove Watershed Activities Reporting
Year 1, Phase I of the Chollas Creek Dissolved Metals TMDL Implementation Plan

Activity Name (Project #)	Project Description	Current Status (Planning or Implementation)	Outcome Levels(s)	Assessment Mechanisms	Activity Results and Updates
Activities For Current Reporting Year					
Tier II Collaborative Special Study #1: Jurisdictional Monitoring in the Upper Watershed	Storm water monitoring will be conducted during two storm events during the 2009-2010 wet weather monitoring period. Monitoring will be conducted simultaneously at the two compliance monitoring stations SD8(1) and DPR2. Flow weighted composite samples will be analyzed for organophosphate pesticides (Diazinon and Chlorpyrifos), organochlorine pesticides (Chlordane), PAHs, PCBs, total hardness, and dissolved copper, lead, and zinc, and acute and chronic toxicity to <i>Ceriodaphnia dubia</i> . Partnership with City of San Diego, Caltrans, and City of La Mesa	Planning	Level 1	Completed study and final report prepared by City of San Diego consultant.	Potential delayed participation by the City of Lemon Grove due to severe budget constraints. City is working to collaborate on a solution to maintain participation.
Tier I Legislative: Municipal Code and General Plan Amendments Sustainability Policy and Green Building Policy	To update the City's Municipal Code and General Plans to include green building concepts including LID and create a sustainability policy for overall City functions.	Planning and Implementation	Level 1	Amendment Adoption and Plan Development Approval Process	Development Code amendment adoption by Jan. 2010 Municipal Code amendment adoption by Mar. 2010 General Plan amendment adoption delayed due to quantity of work and necessity of performing work in house (budget constraints prevent the hiring of a consultant)
Ongoing Agency Wide Activities					
Tier I Discharger Facilities Municipal Facility Inspections	Municipal facilities are inspected for compliance with the requirements of the NPDES Permit. During these inspections, facilities are also inspected for activity specific BMPs and all designated pesticide, herbicide, and fertilizer BMPs required by the FY08 JURMP. Municipal Treatment Control BMPs are inspected for completeness, cleanliness, and other factors.	Implementation	Level 2: Change in awareness Level 3: Modification of Behavior	Total Inspections Timeliness of Inspections	53 Number of Inspections The City inspects all industrial facilities and all automotive and restaurant facilities within the City's boundaries. 1 inspection was conducted per facility and follow up inspections were performed as necessary
Tier II Residential, Commercial Clean up Events	Clean up events are held annual in the Chollas watershed or more frequently based on volunteer group availability. Each event will now include a brief post clean up survey.	Implementation	Level 2 and 4	# of participants Trash Load Reductions Survey data	Completed Creek to Bay in April 09 and Coastal Clean up Day in Sept. 09. Will participate in these two I Love a Clean San Diego events every year. Approximately 13lbs of trash and debris were collected by 4 volunteers for Creek to Bay. Approximately 600 lbs of trash and debris were collected by 20 volunteers for Coastal Clean up Day.
Tier I Residential City Newsletter	To provide Watershed specific information in the semi-annual City wide Newsletter. The Newsletter is distributed to all residents, business owners and business tenants in the City. The City will provide updates on current programs and TMDL efforts. Will contain a brief survey in future editions pertaining to Watershed knowledge.	Implementation	Level 1 and 2	Data collected from surveys	Newsletters are published biannually by the City and contain an environmental section.
Tier I Residential	To provide water quality and watershed information to the attending public. Obtain survey information pertaining to household BMPs.	Implementation	Level 1, 2, and 3	Data collected from surveys	During FY 08-09, the City had booths at the both the Fire Station open house and the Winter Bonfire. These two events ready approximately 800/900 people, residents and non-residents. The City has participated in one event so far during FY 09-10, the Fire

Activity Name (Project #)	Project Description	Current Status (Planning or Implementation)	Outcome Levels(s)	Assessment Mechanisms	Activity Results and Updates
Water Quality Booth at City Events					Station Open House. The City will be participating in the Winter Bonfire in Dec. 09.
Tier I Municipal Xeroscaping Municipal Medians	Ongoing rehabilitation of municipal landscaping to include LID concepts, water conservation, and xeroscaping	Implementation	Level 1, 2 and 3 Potential Level 4 based on water saved	Amount of water saved Rehabilitation of all medians	This is an on-going project that was begun in FY 08-09. None of the new xeroscaped areas have been in ground long enough to assess water savings at this time.
New Activities					

United States Navy Watershed Activities Reporting
Year 1, Phase I of the Chollas Creek Dissolved Metals TMDL Implementation Plan

Activity Name (Project #)	Project Description	Current Status (Planning or Implementation)	Outcome Levels(s)	Assessment Mechanisms	Activity Results and Updates
Activities For Current Reporting Year					
Tier I Pollution Prevention Plan updated for Naval Base San Diego	Project will update existing P2 plan for Naval Base San Diego. P2 Plan will focus on product substitution and source reduction as preferred methods to reduce and eliminate pollutants in storm water runoff to Chollas Creek.	Implementation	Level 2 Change in awareness, Level 3 behavioral change, Level 4 load reduction	Document P2 initiatives implemented. Record pounds and types of waste generated.	Results available after 2009/2010 wet season.
Tier I Evaluation and Minimization Plan for Copper and Zinc in Storm Water	Prepare an evaluation and minimization plan to address sources of copper and zinc in storm water from the base.	Implementation	Level 4 load reduction	Measure copper and zinc in industrial storm water discharges.	Results available after 2009/2010 wet season.
Tier I/II MS4 Storm Water Management Plan	The Navy will prepare a Storm Water Management Plan for Naval Base San Diego to comply with the Statewide General Permit for storm water. The Management Plan will describe BMPs, measurable goals, and timetables for implementation in the following six program areas: 1. Public Education and Outreach; 2. Public Participation/Involvement; 3. Illicit Discharge Detection and Elimination; 4. Construction Site Runoff Control; 5. Post-Construction Runoff Control; and 6. Pollution Prevention/Good Housekeeping.	Planning	Level 2 Change in awareness, Level 3 behavioral change, Level 4 load reduction	Track required inspections, audits, and maintenance activities and document in annual report. Track attendance at training and awareness events.	Navy is presently discussing the conditions for the updated Naval Base San Diego NPDES storm water permit with SDRWQCB. Updated permit should be issued by May 2010.
Ongoing Agency Wide Activities					
Tier II Creek Trash Removal Program	Program to remove accumulated trash and debris from mouth of Chollas Creek. Trash and debris is captured behind booms strung across the creek. Navy personnel utilize cranes and small boats to removal trash and debris which is transported to the local landfill for disposal. Hazardous substances removed from the creek are stored in a secured area and properly disposed of in accordance with Federal and state laws and regulations. Conducted in partnership with City of San Diego.	Implementation	Level 4: load reductions in Creek and San Diego Bay	Report weight (tons) of trash and debris removed from creek.	Total removed in 2008-2009 wet season is approximately 9 tons.
New Activities					
	None				

Port of San Diego Watershed Activities Reporting
Year 1, Phase I of the Chollas Creek Dissolved Metals TMDL Implementation Plan

Activity Name (Project #)	Project Description	Current Status (Planning or Implementation)	Outcome Levels(s)	Assessment Mechanisms	Activity Results and Updates
Activities For Current Reporting Year					
Tier II Chollas Creek Family Stream Team Initiative	<p>The project is a four pronged strategy involving education, restoration, enforcement, and evaluation components. Financial support for this project is provided by the Port of San Diego's Environmental Fund.</p> <p>City of San Diego will be collaborating on this activity by monitoring the refuse collection events, surveying participants' motivation and participants' general understanding and attitude about illegal dumping to assist in efforts to eliminate trash and debris in the Chollas Creek watershed.</p>	Implementing	Level 3 Behavioral Modification; Level 4 Load Reduction	<p>Does education result in behavioral change or raise awareness? Does education result in lower trash pollution? What is the load reduction of trash/debris that is disposed through these efforts?</p> <p>Groundworks San Diego has prepared a progress report on the findings. The progress report includes: Number and/or amount of plants removed or planted; Amount of debris removed; Number of people reached; Participant surveys; Citizen water quality monitoring</p>	<p><u>Activity Results for FY 2008-2009:</u></p> <ul style="list-style-type: none">• Held seven events• 90 tons of trash and debris, filling sixteen 40-yard roll-off dumpsters• 12 tons of non-native vegetation (i.e., <i>Arundo donax</i>) was removed• City of San Diego monitored events, characterized type and volume of trash collected, and surveyed participants <p><u>Activity Update:</u> This activity will be completed during FY 09-10 reporting period. Water quality monitoring and feasibility study for a trash net collection device scheduled for Fall 2009.</p>
Tier II Chollas Creek Restoration	<p>The restoration project will remove non-native plant species and plant native plant species, cleanup of trash and debris, and provide environmental education. Financial support for this project is provided by the Port of San Diego's Environmental Fund.</p>	Implementing	Level 3 Behavioral Modification; Level 4 Load Reduction	<p>Does education result in behavioral change or raise awareness? Does education result in lower trash pollution? What is the load reduction of trash/debris that is disposed through these efforts?</p> <p>The Urban Corp of San Diego County has prepared a progress report on the on the activity to date. The progress report includes: Number and/or amount of plants removed or planted; Amount and type of debris removed; Number of people reached</p>	<p><u>Activity Results for FY 2008-2009:</u></p> <ul style="list-style-type: none">• Education: Reached approximately 400 students from Cesar Chavez and Emerson-Bandini Elementary Schools through 6 in-class and 6 field trip experiences at 38th and Alpha Street Park. Students also participated in creating a native species open space supporting wetland habitat.• Public Outreach: Booths at Heritage Day Festival (an event held on February 28, 2009 with an overall attendance of over 11,000 visitors) and Balboa Park Earth Fair Celebration (an event held on April 19, 2009 which draws approximately 70,000 visitors each year); Door to door residential outreach effort to surrounding neighborhoods and businesses.• Restoration: Removal of 765 cubic yards of non-native vegetation (i.e., <i>Arundo donax</i>). Planted 50 1-gallon native coastal live oaks.• Cleanups: Coordinated with Groundworks San Diego during the 2009 ILACSD Creek to Bay cleanup event at 38th and Alpha Park. The Urban Corp also cleaned a second site at 33rd and National Ave during this event. Approximately 100 volunteers collected approximately 5 tons of trash and recyclables, filling two 40-yard roll off dumpsters with trash and three 50 gallon bags with recyclables. <p><u>Activity Update:</u> This activity is ongoing and will be completed during FY 09-10 reporting period.</p>

Activity Name (Project #)	Project Description	Current Status (Planning or Implementation)	Outcome Levels(s)	Assessment Mechanisms	Activity Results and Updates
Tier II Stream Team Stewards	The education project for elementary school children consists of a series of in-school and after school classroom sessions and field trips; cleanup, storm drain stenciling and restoration of one acre of the Chollas Creek stream corridor. Financial support for this project is provided by the Port of San Diego's Environmental Fund.	Implementing	Level 3 Behavioral Modification; Level 4 Load Reduction	Does education result in behavioral change or raise awareness? Does education result in lower trash pollution? What is the load reduction of trash/debris that is disposed through these efforts? The San Diego Zoo has prepared a progress report on the activity to date. The progress report includes: Number and/or amount of plants removed or planted; Amount and type of debris removed; Number of people reached	<u>Activity Results for FY 2008-2009:</u> The activity was in the planning phase during this reporting period. Key elements include: <ul style="list-style-type: none"> • Site and plant species selection for field restoration component • Selection of schools participating in the in-school program: Ceasar Chavez Elementary, Emerson-Bandini Elementary, Horton Elementary, and Chollas-Mead Elementary • Selection of schools participating in the after school program: Carver Elementary, Chollas-Mead Elementary, Encanto Elementary, Nye Elementary, Valencia Park Elementary, and Sherman Elementary • Development of the curriculum and evaluations for the program <u>Activity Update:</u> This activity is ongoing and will be completed during FY 09-10 reporting period. Program implementation for both in-school and after school portions of the program will begin October 2009.
Ongoing Agency Wide Activities					
Tier I Port of San Diego Industrial Inspection Program	The Port of San Diego performs routine inspection and enforcement of industrial facilities as part of its JURMP. During the 2008-2009 reporting period, the Port conducted facility inspections to ensure the impacts of urban runoff from industrial and commercial facilities were reduced or eliminated. There is one industrial facility, NASSCO, within the Port's portion of the Chollas Creek Watershed. This facility is inspected approximately annually, with follow ups and enforcement performed as necessary.	Implementing - Ongoing	Level 1 Programmatic Outcomes; Level 3 Behavioral Modification through enforcement	Is the site continuing to be in compliance with the industrial requirements of the Port of San Diego's JURMP? # Inspections, # Violations Observed # Corrective Actions Implemented	The Port conducted one facility inspection of National Steel and Shipbuilding Company (NASSCO) on April 30, 2009. The site was determined to be in compliance with JURMP requirements, with zero violations observed and zero corrective actions implemented.
Tier I NASSCO Environmental Practices	The NASSCO Shipyard, an industrial facility on Port of San Diego property, identifies and implements BMPs in order to maintain compliance with their NPDES industrial permit requiring zero discharge from the facility.	Implementing - Ongoing	Level 1 Programmatic Outcomes	Are the appropriate BMPs installed to ensure zero discharge of pollutants to the Chollas Creek? Is the facility collecting all of their water or discharges? NPDES Industrial Permit Report (Order NO. R9-2003-005) prepared by NASSCO	Results provided in NASSCO's NPDES Industrial Permit 2009 Annual Reports (Per Order NO. R9-2003-005)
Tier I Booths at major events	The Port annually sponsors booths at various events, such as the Del Mar Fair and San Diego Boat Show	Implementing - Ongoing	Level 2: Change in awareness; Level 3: Modification of Behavior through education and outreach	Are booths at major events an effective outreach tool? What level of awareness does the public have about water quality in Chollas Creek? # posted advertisements or pamphlets distributed Results from public opinion/awareness surveys (as applicable)	San Diego Boat Show on 1/24/09 – 1/27/09. Survey indicates that 50% of participants learned useful information. Survey indicates that 50% of the participants will change one behavior. California Yacht Club Boater Appreciation Party on 7/26/08. 240 people attended. No surveys given.

Activity Name (Project #)	Project Description	Current Status (Planning or Implementation)	Outcome Levels(s)	Assessment Mechanisms	Activity Results and Updates
New Activities					
Tier II Aquatic Adventures' SEA Series Initiative	The Port of San Diego supported science education for low-income youth in City Heights, a neighborhood in the Chollas Creek watershed, through the SEA Series Initiative. The science education program includes professional development for teachers, hands-on activities, thematic curriculum, books and materials, and an environmental service project the students implement at the end of the program.	Implementing	Level 2 Increase in Awareness; Level 3 Behavioral Modification	Does the education activity result in behavioral change or raise awareness? Aquatic Adventures has prepared a progress report on the activity to date. The progress report includes: # of students and teachers reached, # educational hours; Pre and post test assessments	<u>Activity Results for FY 2008-2009:</u> <ul style="list-style-type: none">Reached 946 low-income students and 30 teachers from schools within the City Heights area8,514 total educational hours through SEA Series InitiativeProgram provided to 3rd through 6th grade classes at four elementary schools and four middle schools. Six of the schools were in the Chollas Creek watershed. <u>Activity Update:</u> This activity is ongoing and results from the program evaluation will be available in FY 09-10.

City of San Diego Watershed Activities Reporting
Year 1, Phase I of the Chollas Creek Dissolved Metals TMDL Implementation Plan

Activity Name (Project #)	Project Description	Current Status (Planning or Implementation)	Outcome Levels(s)	Assessment Mechanisms	Activity Results and Updates
Activities For Current Reporting Year					
Tier I Chollas Creek Watershed Storm Drain System Characterization Study	Source ID study for pollutants relating to the pending sediment toxicity and benthic community degradation TMDL at the mouth of Chollas Creek and adjacent areas. Study will assess existing upstream data and determine data gaps. Primary constituents of concern are Chlordane, PCBs, PAHs and pesticides. Monitoring to characterize the storm drain system during wet and dry weather. Wet weather will consist of pollutograph sampling with water column chemistry, sediment chemistry and grain size, and toxicity analyses for two storm events of 0.1 inch of rain. Dry weather will consist of water chemistry, sediment chemistry, and toxicity sample collection.	Planning	Level 1	The findings from this study will allow the City to characterize the pollutants causing sediment toxicity and benthic community degradation, and help identification sources of those pollutants.	In FY09, the City contracted with a consultant to conduct this study. Monitoring and reporting will occur in FY10.
Tier I Identifying and Modifying Barriers to LID Techniques	This project involves a City-wide review of Municipal Code, development regulations, and design standards to determine barriers/conflicts to using LID and other BMP types within new development and redevelopment, where applicable.	Planning	Level 1	Report documenting the barriers to implementing LID and what benefits are associated with modifying these barriers.	The work plan is currently being developed for this activity.
Tier I Brake Pad Partnership	The project involves providing support for bill SB346 which requires for brake pads to contain no more than 5% copper by weight by 2011.	Implementation	Level 4: Load Reduction	Sponsorship of Sustainable Conservation	The City supported Sustainable Conservation's Brake Pad Partnership technical efforts both monetarily and legislatively this reporting period. The City was critical in obtaining Senator Kristine Kehoe's sponsorship of Senate Bill 342. This draft bill was under committee review when it was placed on a two year legislative schedule. Continued hearings on this bill will resume in the winter of 2010.

Activity Name (Project #)	Project Description	Current Status (Planning or Implementation)	Outcome Levels(s)	Assessment Mechanisms	Activity Results and Updates
Tier I Public Service Announcement	Project continues the annual Public Service Announcements campaign in the Chollas Creek Watershed. The objective of this campaign is to educate the public about the causes of bacteria and trash loading, and in encouraging positive behavioral change. During FY09, there were 6,702,533 impressions in San Diego Bay (Chollas Creek) due to television advertisements. There were 9,201,893 impressions due to radio announcements.	Implementation	Level 2: Change in awareness Level 3: Modification of Behavior through education and outreach	# residents reached through PSAs Results from public opinion/awareness surveys	<p>The city conducted an effectiveness assessment of Think Blue PSAs and storm water messages via field experiment in which 309 individuals were shown eight different Think Blue PSAs (including the Karma, Karma Second Chance PSAs). 25% of participants were more likely to answer that storm water is not treated than those who had answered the question prior to watching the PSA. Karma Second Chance PSA scored the highest of the PSAs in motivating participants to take specific actions to prevent storm water pollution.</p> <p>The city also obtained assessment information from its annual random-digit dial 2009 <i>San Diego Storm Water Survey</i> of 800 total residents from all WMAs. 55% of residents said they saw a <i>Think Blue</i> PSA last year (up from 52%) on television while 8% of residents heard the radio announcements in FY 2009. Significant increases in awareness were detected among women over the age of 50, residents under the age of 35 and over 64, those with no college education, Asians and Hispanics. Additionally, 29% of residents reported making a change in their behavior as a result of seeing information about what polluted water in storm drains does to local rivers, beaches and the ocean. Of those residents that had heard of “Think Blue” 40% reported that they were taking steps to change behaviors as well.</p> <p>To estimate the number of impressions for Chollas Creek, is 6,702,533 for television and 9,201,893 for radio ads.</p> <p>The City also worked with the San Diego Regional Stormwater Copermittees to run a pesticide PSA called “Ants in Your Pants.”</p>
Tier I CBSM Program for Chollas Creek – Trash	Community Based Social Marketing targeting Chollas Creek Watershed and activities/behaviors in residential and mixed residential and commercial areas that result in water quality issues due to trash. This project includes a trash clean up, a type structural trash intervention (e.g. new trash cans), and targeted education and outreach. The CBSM project is based on the methodology developed for Keep America Beautiful.	Implementation	Level 2: Change in awareness Level 3: Behavioral change in targeted areas Level 4: Load Reduction	Visual Trash Survey Telephone Behavior/Awareness Survey Load reduction - pounds of Trash Removed during clean up effort	<p>In FY 2009 the baseline observations; development of CBSM intervention; and community clean up portions of the project were completed. In FY 2010 implementation of the CBSM intervention and follow-up observations are anticipated. Effectiveness will be measured on a variety of levels. First, the number of stakeholders, residents, and business being reached by the pilot will be tabulated. Second, awareness, attitude and behavioral data will be collected via surveys and observations. Third, once the outreach strategy has been implemented, another survey will be conducted to assess changes in knowledge and/or behavior. Recipients responding to and participating in the survey will also be assessed, such as volunteers, or those who agreed to commit to the project.</p>

Activity Name (Project #)	Project Description	Current Status (Planning or Implementation)	Outcome Levels(s)	Assessment Mechanisms	Activity Results and Updates
Tier I Billboards/ Transit Shelters	This project evaluates whether public outreach can be linked to positive behavioral change. These advertisements were displayed in both English and Spanish on billboards and bus shelters, and target behaviors associated with bacteria and gross pollutants (trash) profiled as a vector.	Complete	Level 2: Change in awareness Level 3: Modification of Behavior through education and outreach	% residents reached through signage Results from public opinion/awareness surveys (randomly selected cohort)	Based on results from the <i>2009 Storm Water Survey</i> , only 17% of residents polled recalled encountering Think Blue messages via billboards and mobile advertising. It was determined that transit shelters and billboard advertisements were not as effective in generating sufficient knowledge and awareness of the <i>Think Blue</i> program and storm water issues. The activity is being discontinued in FY 2010.
Tier I Mobile Advertising – Trash and Bacteria	This project evaluates whether public outreach can be linked to positive behavioral change. These advertisements were displayed in both English and Spanish on City-owned static billboard trucks.	Complete	Level 2: Change in awareness Level 3: Modification of Behavior through education and outreach	% residents reached through signage Results from public opinion/awareness surveys (randomly selected cohort)	The advertisements were displayed throughout the San Diego Bay WMA in both English and Spanish in FY 2009. The estimated audience was 522,300 for Chollas Creek. In FY 2009, out of 800 randomly selected residents from all watersheds who participated in the <i>Think Blue</i> survey, approximately 17% of residents became aware of the Think Blue message through billboards and mobile advertising. Based on results from the <i>2009 Storm Water Survey</i> it was determined that mobile advertising was not as effective in generating sufficient knowledge and awareness of the <i>Think Blue</i> program and storm water issues to justify the cost of continuing the activity. Additionally, the Department received a number of public comments objecting to the use of mobile advertising to convey an anti-pollution message. The city has discontinued this activity.
Tier I Low Impact Development and the Planned BMPs at Southcrest and Memorial Park (to be issued project #)	This education and outreach program will include community meetings, poster presentations, handouts, education materials and give-aways promoting water quality, LID techniques, and descriptions of the planned CIP projects in the Chollas Creek Watershed, including Southcrest Park (City-14-1 and City-14-2), Memorial Park (City-15-1).	Planning	Level 2: Change in awareness Level 3: Modification of Behavior through education and outreach	Results from public opinion/awareness surveys	A work plan is nearing development for the Memorial Park project. Implementation of Southcrest Park project has been delayed.
Tier I Targeted Metals-Related Facilities – Auto Facility Inspections Pilot Study (City-8-1)	Project is an aggressive inspection program targeted at auto-related facilities for metals-related pollutants loading.	Implementation	Level 1: Completion of Inspections Level 3: Behavior Change Level 4: Source Abatement	# of facilities inspected # of sites with corrective actions # of IC/ID's observed	191 facilities inspected (Level 1) 21 sites implemented corrective actions during inspection (Level 3 and 4) 0 IC/ID's observed during inspections This activity is an ongoing study and will continue through FY10.

San Diego Bay Watershed Urban Runoff Management Program 2008-2009 Annual Report
Appendix E – Chollas Creek Dissolved Metals TMDL Implementation Plans

Activity Name (Project #)	Project Description	Current Status (Planning or Implementation)	Outcome Levels(s)	Assessment Mechanisms	Activity Results and Updates
Tier I Targeted Business Inspections Pilot Study (City-8-2)	Project is a targeted aggressive inspection program targeting various outdoor activities of businesses.	Cancelled			This activity is no longer planned for the Chollas Creek Watershed. Instead, the activity is moving forward in other watershed's within the City of San Diego's jurisdiction. The findings from the activity may be implemented in the Chollas Creek Watershed, and would be reported under the TMDL at that time.
Tier I Collaborative Special Study #1: Jurisdictional Boundary Monitoring in the Upper Watershed (to be issued project #)	Storm water monitoring will be conducted during two storm events during the 2009-2010 wet weather monitoring period. Monitoring will be conducted simultaneously at the two compliance monitoring stations SD8(1) and DPR2. Flow weighted composite samples will be analyzed for organophosphate pesticides (Diazinon and Chlorpyrifos), organochlorine pesticides (Chlordane), PAHs, PCBs, total hardness, and dissolved copper, lead, and zinc, and acute and chronic toxicity to <i>Ceriodaphnia dubia</i> .	Planning	Level 1	Completed Study	Activity will be implemented during the 2009/2010 wet season.
Tier I Collaborative Special Study #2: Activity Assessment Grab Samples for Metals	Activity assessment grab samples will be collected for source identification studies or for BMP assessments. Samples will be collected from specific land use areas in each priority sector during one wet weather event. Specific locations will be pre-determined prior to the storm monitoring season based on land use, activities, or BMPs and will be decided by the participating Dischargers. Samples will be analyzed for total and dissolved metals, TSS, and hardness.	Planning	Level 1	Completed Study	Activity will be implemented during the 2009/2010 wet season.
Tier I Collaborative Special Study #3: Synthetic Pyrethroid Assessment Monitoring	Additional samples will be collected at SD8(1) and DPR2 (during three events) and LM-1 and LG-1 (during two events) and analyzed for synthetic pyrethroids, TSS, and toxicity to <i>Hyalella azteca</i> . The purpose of this study is to collect data that will be submitted to the Department of Pesticide Regulation (DPR) as part of their synthetic pyrethroid re-registration process. The goal of participation with DPR is to have synthetic pyrethroids banned or placed on restricted use.	Planning	Level 1	Completed Study	Activity will be implemented during the 2009/2010 wet season.

Activity Name (Project #)	Project Description	Current Status (Planning or Implementation)	Outcome Levels(s)	Assessment Mechanisms	Activity Results and Updates
Tier I Collaborative Special Study #4: Bacteria Monitoring	Samples will be collected and analyzed for total coliform, fecal coliform, and <i>enterococci</i> during storm events at SD8(1) and DPR2 (three storms) and LM-1 and LG-1 (two storms). Samples will be collected as grab samples during the peak flow of the storm event.	Planning	Level 1	Completed Study	Activity will be implemented during the 2009/2010 wet season.
Tier I Dry Weather Bacterial Source Identification Study In the Mouth of Chollas Creek (City-27-1)	Bacteria Source Study targeted storm drains and other potential sources of bacteria during three dry weather field surveys. Bacteria samples were be taken from investigation sites and fixed sites located on the three reaches of Chollas Creek. This will help identify the relative bacterial concentrations and flow influencing the Chollas Creek tidal prism (the point of compliance for the SHELL Beneficial Use) can be determined and the most likely sources of bacteria identified.	Complete	Level 1	Completed Study	This study was completed during the last year. Results and findings include: <ol style="list-style-type: none">1. During dry weather, there is no hydrologic connection between the mouth of Chollas Creek (the area influenced by tidal action) and the upstream drainage. Thus, bacteria found in the receiving waters of the creek mouth originate from sources that discharge directly to the mouth (i.e., storm drains).2. 17 storm drains were identified that terminate in the creek mouth. Of these, evidence of flow was apparent in only four.3. The highest bacterial concentrations were associated with the two storm drains near the National Avenue Bridge.4. Two sources of flow that contributed to the high bacterial concentrations:<ol style="list-style-type: none">a. Over-irrigation of landscaping at a strip mallb. A freshwater slough adjacent to a freeway off ramp that periodically discharges to a storm drain in the creek.5. Scour ponds associated with the storm drains provide depressions within the streambed where high levels of indicator bacteria can be maintained. Tidal action carries bacteria from scour ponds to other areas within the tidal prism, serving as a point of inoculation for the mouth of Chollas Creek.
Tier I Tecolote Creek Bacteria Source Study, Phase I (City-5001)	Bacteria Source Study included dry and wet weather investigation of the bacteria loading potential of priority sources in the Tecolote Watershed. This project is directly related to the Chollas Creek Watershed that shares common priority sources for bacteria.	Complete	Level 1	Completed Study.	This study was completed in FY2008. Findings and results included that some sediments may act as a bacterial reservoir. This led to Phase II of the study.

Activity Name (Project #)	Project Description	Current Status (Planning or Implementation)	Outcome Levels(s)	Assessment Mechanisms	Activity Results and Updates
Tier I Tecolote Creek Bacteria Source Study, Phase II (City-5002)	Bacteria Source Study included the collection of additional rainfall and bacterial concentration data and further bacterial source investigation. This project is directly related to the Chollas Creek Watershed because it shares common priority sources for bacteria. This work builds upon the bacteroides and source-related findings of the Phase I bacterial source ID study which was completed in August 2008 and complements results being collated under the 2009 San Diego River Phase I Microbial Source ID Study.	Complete	Level 1	Completed Study	Results and Findings <ul style="list-style-type: none">▪ An additional seven storm events need to be monitored in order to have a data set suitable for Section 303 (d) de-listing.▪ Speciation of <i>enterococci</i> discharged during wet weather suggest that calculated bacterial loads in Tecolote Creek overestimate the potential threat to REC-1 and REC-2 beneficial uses because of the significant presence of fecal indicator bacteria from environmental sources such as soils and plants.
Tier I Chollas Creek Design Storm Study and Sediment and Bacteria Relationship Source Study (City-26-1)	Project includes collecting and analyzing pollutograph samples from Chollas Creek Watershed and two other watersheds to determine a recommended approach to the BMP design storm to be used in TMDL implementation..	Complete	Level 1	Completed Study	The design storm study was completed in FY09. The sediment and bacteria relationship component of the study is on hold due to budget constraints.
Tier 1 TMDL Aerial Deposition Source Evaluation Monitoring Study, Phase III (City-24-1)	This Project evaluated potential sources of metals based on water quality data, previous aerial deposition data, inspection data (from FY07-08 targeted industrial inspections and other programs), and an area reconnaissance (to prioritize potential sources and identify sampling locations for first flush wet weather events). The study considered the impact of roofs and structural galvanizing. The study assessed runoff from up to 20 industrial/commercial sampling locations and up to six residential-only sampling locations for comparison to the industrial/commercial land use.	Complete	Level 1	Completed study.	Results and Findings <ul style="list-style-type: none">▪ Average annual aerial emissions of copper from four stationary facilities near the mouth of Chollas Creek are roughly five times higher than the average annual load discharged via storm water runoff. In contrast, lead and zinc emissions were only 1% and 24% of average annual discharge load.▪ Aerial deposition of copper, lead, and zinc accounts for 100%, 29%, and 74%, respectively, of the average annual load discharged via storm water runoff. This suggests that mobile emissions sources (e.g., automobiles and resuspended dust) and localized parcel-based sources also play a role in metals deposition of lead and zinc in the watershed.▪ Samples collected from deteriorating metal rooftops were found to be significantly higher in concentrations of total and dissolved zinc compared with the street level runoff concentrations. Concentrations of copper and lead were relatively low from metal rooftop runoff, but increased in street level runoff suggesting aerial deposition or other parcel-based sources of copper and lead.▪ Total and dissolved copper concentrations were positively correlated (higher) with higher percent impervious surface area.▪ Copper, lead, and zinc concentrations were

Activity Name (Project #)	Project Description	Current Status (Planning or Implementation)	Outcome Levels(s)	Assessment Mechanisms	Activity Results and Updates
					<p>higher in commercial and industrial land uses compared with residential land uses.</p> <ul style="list-style-type: none">▪ Copper and zinc concentrations were significantly higher in Priority Sector 1 compared with other priority sectors. This supports the conclusion that emissions of copper and zinc from stationary facilities near the mouth of Chollas Creek likely contribute to aerial deposition and subsequent runoff of these metals.▪ Industrial and commercial activities with uncovered outdoor metal storage and outdoor operations were positively correlated to high levels of copper, lead, and zinc.
Tier I Doggie Bag Dispenser Pilot Program	Evaluation of the most effective form(s) of pet waste stations, identification of optimum installation density and locations, potential pollutant load reductions that may be attributable to the pet waste station installations and development of appropriate effectiveness assessment measures.	Planning	Level 2: Public Awareness Level 3: Behavior Change	To be determined	This activity is currently in development.
Tier I Evapotranspiration Effects Study	This study evaluate to what level evapotranspiration provides a reduction in pollutant loads for street tress. This study may assess different vegetation types or different plant species.	Planning	Level 1: Completion of Study	Completed Study	This activity will be in development in FY11.

Activity Name (Project #)	Project Description	Current Status (Planning or Implementation)	Outcome Levels(s)	Assessment Mechanisms	Activity Results and Updates
Tier II Roads, Commercial, Residential Chollas Creek Aggressive Street Sweeping (City-3-1)	Project includes the purchase and deployment on designated routes in Sectors 1 and 2 of a regenerative air and vacuum street sweepers. These sweepers are anticipated to collect additional fines and gross solids compared to more widely used mechanical sweepers. Training of the operators for this new equipment has also been conducted. These two new aggressive sweepers are being used on existing routes and compared to mechanical sweepers regarding their effectiveness to remove debris and the metals contained in the debris. The frequency of the sweeping is also assessed regarding increased pollutant removal as well as acceptance by the public. During the FY08 program, 74,340 pounds of debris was removed from the streets.	Implementation	Level 4: Load Reduction	<p>Load reduction from Debris monitoring data including:</p> <ul style="list-style-type: none">- Weight & Volume- # broom miles- physical and analytical characteristics of debris <p>Management Questions: Implementation Cost Are more aggressive regenerative air or vacuum sweepers effective in achieving pollutant load reductions cost effectively? -Methods of measure will be tracked for each sweeper type.</p> <p>What is the most cost effective frequency that is publicly acceptable? - Methods of measure will be tracked at different sweeping frequencies for different sweepers.</p>	<p>The project, a two year study of actively aggressive street sweeping, will be completed in FY2010 with wet weather monitoring being conducted during the rainy season. At the conclusion of the study, the most effective type of sweeper and the most cost effective frequency should be understood. Data collected to date include:</p> <p>Total kg of debris removed by mechanical sweeper: 15,068 kg Total kg of debris removed by regenerative-air sweeper: 15,939 kg <u>Total kg of debris removed by vacuum sweeper: 29,774</u> Total kg of debris removed: 60,781 kg Total broom miles swept by mechanical sweeper:* 1,099 mi Total broom miles swept by regenerative-air sweeper: 706 mi <u>Total broom miles swept by vacuum sweeper: 749 mi</u> Total broom miles swept: 2554 mi Total kg of debris removed by mechanical sweeper/mile swept:14kg/mi Total kg of debris removed by regenerative-air sweeper/mile swept: 23 kg/mi <u>Total kg of debris removed by vacuum sweeper/mile swept: 40kg/mi</u> Average kg of debris removed /mile swept:26kg/mi</p> <p>Debris testing and water quality monitoring will be completed in FY10.</p>
Tier I Route Posting and Median Sweeping Pilot Project	The purpose of this pilot project is to evaluate the feasibility, potential water quality benefits and cost-effectiveness of the following propose modifications to the City's Street Sweeping Program: 1) posting limited-hour "no parking" signs along non-posted routes; and 2) sweeping street medians.	Planning	Level 4: Load Reduction	To be determined	This activity will be developed in FY10.
Tier I Groundwork San Diego Chollas Creek Family Stream Team Partnership	The Port of San Diego awarded a grant to Ground work San Diego Chollas Creek for education, restoration, and refuse collection. The City of San Diego is collaborating on this activity by collecting data from the refuse collection events, surveys of the creek, and participant surveys.	Implementation	Level 3: Behavior Change Level 4: Load Reduction	Visual Trash Assessment of dump sites within Chollas Creek Participant Surveys Trash and debris characterization and quantification	This activity is in progress. See the Port of San Diego's table for more information regarding the FY09 statistics. The City of San Diego will report on findings of the focused assessment next year, at the conclusion of the program.
Tier II Discharger Facilities Rain Barrels/ Downspout Disconnect Project (City-12-1)	Project will reduce storm water flows by capturing runoff from roof structures and gutters at Southcrest Recreation Center. Project will include two rain barrel systems and three combined rain barrel and bioretention planter system. All systems will be connected to a pump/timer configuration which will irrigate vegetated areas.	Planning	Level 2: Public Awareness Level 4: Load Reduction	Runoff volume captured Load reduction Maintenance Hours Implementation Cost	Five rain barrel systems were installed at Southcrest Park Recreation Center in mid to late FY09. The rain barrel systems will be monitored during the 2009/2010 rainy season and will be assessed for effectiveness at the end of FY10.

Activity Name (Project #)	Project Description	Current Status (Planning or Implementation)	Outcome Levels(s)	Assessment Mechanisms	Activity Results and Updates
Tier II Residential Outdoor Water Conservation and Nuisance Flow Reduction Using Smart Irrigation Hardware and Water Harvesting Systems	This project is proposed to reduce the dry weather nuisance flows from irrigation runoff and associated pollutants such as pesticides and nutrients and capture pollutants that deposit and accrete on roofs. Project will involve the planning and implementation of a demonstration project for the installation of "smart" irrigation systems and rain barrels in designated residential communities. Implementation will include outreach and incentive programs, which will be determined during FY10 planning efforts.	Planning	Level 2: Public Awareness Level 4: Load Reduction	To be determined	This activity is in development.
Tier II Eating and Drinking, Commercial, Roads Trash Segregation BMP Installation	This project is coordinated with the targeted aggressive street sweeping program. Inlet devices are installed to capture trash/debris prior to conveyance into local waterbodies. Due to long-term high maintenance issues, this BMP will first be piloted with aggressive street sweeping to assess the maintenance requirements compared to their trash removal effectiveness. The use of a multi-catchment /drainage area approach to trash removal (e.g., hydrodynamic separator at the MS4 outfall) may need to be used as part of a treatment train Tier III approach.	Planning	Level 4: Load Reduction	Load Reduction Maintenance Hours Implementation Cost	The City of San Diego anticipated that catch basins will be retrofitted during FY 2010.
Tier II Auto, Commercial, Roads 43rd and Logan Street Upgrades and "Green Mall" Project	A combined green street and green mall project will be implemented to filtrate a design storm event. Project will include installing bioretention areas and LID filtration techniques and replacing impervious hardscapes with porous concrete sidewalks.	Planning	Level 4: Load Reduction	Load reduction Maintenance hours Implementation cost	The City of San Diego anticipates constructing the project in FY2010.
Tier II Parks, Pesticides, Roads Memorial Park Large "Green Lot" LID (City-15-1)	Project will divert flow from the parking area catch basin to a below grade storage and infiltration device installed within the grassy area of Memorial Park. Flows exceeding the storage and infiltration capacity will bypass the system through an overflow pipe at the downstream end of the infiltration area. Project will be designed to capture and infiltrate up to a five year storm.	Planning	Level 4: Load Reduction	Load reduction Maintenance hours Implementation cost	Design of the project is expected to be completed in FY 2010. Construction is anticipated to begin in April 2010 and finish in October 2010.
Ongoing Agency Wide Activities					
Tier I Auto, Residential, Commercial, Eating and Drinking, Construction, Industrial Modification of City Fact Sheets (City-5004)	<p>The City continues to update Storm water Fact Sheets, as needed. Current efforts focus on changes resulting from the 2007 NPDES permit. The development of the fact sheets has been completed. The program is now focusing on fact sheet distribution. The City is working with other regional Copermittees on these efforts (i.e. partnering with the City of Escondido on the Green Wrench Guide).</p> <p>Future efforts may include information about low impact development or modifications to City codes and/or design standards.</p>	Implementation	Level 2: Change in awareness	Public familiarity with the Fact Sheets (phone survey, questionnaires, inspections, etc)	In FY 2009 the City continues to modify and augment Fact Sheets to inform the public of changes to the City's Storm Water Ordinance. The City expects the updated Fact Sheets to be completed and ready for distribution by Storm Water staff in FY 2010.

Activity Name (Project #)	Project Description	Current Status (Planning or Implementation)	Outcome Levels(s)	Assessment Mechanisms	Activity Results and Updates
Tier I Industrial Enforcement Referrals (City-5005)	The City reports any "non-filers" under the General Industrial Permit to the Regional Board found during the annual industrial/commercial inspections program. In the future, the City may initiate dialogue (education and outreach) with the current Permitted industries about the types of water quality data and possibly coordinating efforts on special studies.	Implementation	Level 1 Level 2: Industry Awareness	Number of "non-filers" reported	102 businesses in need of submitting NOI (application for industrial permit) 322 businesses in need of submitting NONA (application for exemption)
Tier I Discharger Facilities Outfall and Selected Canyon Condition Mapping and Assessment (City-5006)	The City is assessing canyons within its jurisdiction, specifically assessing erosion and deferred maintenance issues related to storm drain and MS4 outfalls which discharge to the canyons. This ongoing project will include a field reconnaissance and GIS mapping effort for the Chollas Creek and Los Peñasquitos watersheds.	Planning	Level 1	Updated GIS maps with assessment of selected outfalls.	Delayed due to funding constraints. It is anticipated that this project may move forward in FY2011 if sufficient funding is available.
Tier I Discharger Facilities Updates to Storm Drain Infrastructure Mapping (City-5007)	The City is updating the existing storm drain infrastructure GIS layers. This ongoing project will include a desktop review of as-built storm drain drawings for CIP and private development projects. (Also see City-5009 and City-5010).	Implementation	Level 1	Updated MS4 maps	In FY09, this project was 50% complete. It is anticipated to be completed in FY10.
Tier I Discharger Facilities Master Drainage Mapping (City-5008)	The City is completing a master GIS layer of drainage areas and watershed for the storm drain and MS4 system within the City's jurisdiction. This ongoing project will include a desktop review of existing drainage maps/studies, field reconnaissance and modeling efforts (as needed), and GIS mapping.	Planning	Level 1	Updated MS4 maps with drainage areas	Planning will occur in FY10.
Tier I Discharger Facilities Corrugated Metal Pipe Assessment (City-5009)	The City is evaluating storm drain and MS4 infrastructure for corrugated metal pipe. The project's objective is to identify, assess, and prioritize systems which may be replaced with reinforced concrete pipe storm drain. (Also see City-5007 and City-5010).	Implementation	Level 1	Compiled list of existing corrugated metal pipe infrastructure and CIP prioritization	In FY09, the project was 33% complete. The project is anticipated to be 100% complete in FY11.

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Tier I Discharger Facilities Priority Reinforced Concrete Pipe Assessment (City-5010)	The City is evaluating storm drain and MS4 infrastructure for degraded reinforced concrete pipe. The project's objective is to identify and assess existing infrastructure for deferred maintenance, and then to prioritize systems to be repaired and/or replaced. (Also see City-5007 and City-5009).	Planning	Level 1	Compiled list of high risk reinforced concrete pipe infrastructure and CIP prioritization	Planning occurred in FY09. A workplan for assessment will be completed in FY10.
Tier I Residential, Commercial, Boat Repair, Eating and Drinking, Landscaping Pesticides Booths at major events (City-5011)	During City sponsored events, educational materials are distributed to the public. The City has sponsored booths at the Del Mar Fair, December Nights, San Diego Boat Show. The City has also sponsored a booth at the Adams Ave. Street Fair, Filipino-American Arts & Culture Festival, and the Old House Tour, events in the Chollas Creek Watershed.	Implementation	Level 2: Change in awareness Level 3: Modification of Behavior through education and outreach	# of materials distributed at events located in Chollas Creek Results from public opinion/awareness surveys (as applicable)	The City participated in 27 events located within the Chollas Creek watershed, distributing more than 9,200 promotional items including brochures, hotline magnets, tip calendar, etc. The 2009 Think Blue Survey indicated that 10% of respondents received Think Blue information at a community event. Of the 27 events, the City distributed outreach materials targeting pesticide usage and integrated pest management practices at 11 events. The estimated combined audience at these events is 358,000 members of the public.
Tier I Construction Construction Site Inspections - Sediment/ Metals (City-5012)	Inspectors within the Field Engineering and Inspection Services Divisions inspect construction sites and issue correction notices and/or stop work orders for code violations. The Field Engineering Division has created and implemented a special correction notice that is issued for storm water violations in need of immediate solution.	Implementation	Level 2: Change in awareness Level 3: Modification of Behavior through enforcement	Total Inspections	77,063 inspections Citywide 484 corrective action notices and NOV's issued Citywide for construction 19 stop work orders issued 58 enforcement actions taken by Storm Water Code Compliance Officers for construction sites
Tier I Discharger Facilities Municipal Facility Inspections (City-5013)	Municipal facilities are inspected for compliance with the requirements of the NPDES Permit. During these inspections, facilities are also inspected for activity specific BMPs and all designated pesticide, herbicide, and fertilizer BMPs required by the FY08 JURMP. Municipal Treatment Control BMPs are inspected for completeness, cleanliness, and other factors.	Implementation	Level 2: Change in awareness Level 3: Modification of Behavior through enforcement	Total Inspections Timeliness of Inspections	657 sites inspected twice during the year 70 sites inspected once during the year Timeliness: 1 inspection should occur prior to and one during the rainy season
Tier I Industrial, Commercial Facilities Industrial/ Commercial Inspections Program (City-5014)	The City inspects prioritized industrial and commercial facilities per the Municipal Permit and, for facilities that do not comply with the City's Municipal Code, takes enforcement action.	Implementation	Level 1: Annual Compliance	Number of prioritized facilities inspected	2,608 inspections 28 Priority 1 Follow up Inspections

Activity Name (Project #)	Project Description	Current Status (Planning or Implementation)	Outcome Levels(s)	Assessment Mechanisms	Activity Results and Updates
Tier II Roads Storm Drain Cleaning (City-5015)	Each year the City of San Diego cleans storm drain infrastructure including catch basins, inlets, cleanouts, and pipes. These efforts help reduce the trash and bacterial loading.	Implementation	Level 1: Annual cleaning Level 4: Load Reduction	Tons of debris removed	Approximately 516 tons of waste removed from MS4 Citywide. Approximately 7.08 tons of waste removed from storm drain facilities associated with Municipal Department properties.
Tier II Roads, Commercial, Residential Street Sweeping (City-5016)	Street sweeping is being implemented across the City of San Diego as well as in the Chollas Creek watershed.	Implementation	Level 4: Measurable Load Reduction	Load reduction determined using: Debris Weight # Curb Miles Swept	95,161 curb miles swept Citywide 6,418 tons of debris removed Citywide 469.6 tons of debris removed from Municipal parking lot sweeping Citywide
Tier II Residential Clean Up Events (City-5017)	During City sponsored clean up events (resulting from specific calls for service and community cleanup efforts), volunteers and City workers remove trash and debris from the watershed. Also, during the year, the City removes trash and debris related to calls of service that are not handled through community cleanup events.	Implementation	Level 2: Public Awareness Level 3: Modification of Behavior Level 4: Runoff and Load Reductions	# participants Trash Load reduction	12,312 calls for service related to litter and dumping in watershed 1971.43 tons of debris removed from the watershed from community cleanup events and City efforts 389 participants in community trash cleanups
Tier I Illicit Discharge Detection and Elimination (City-5018)	The City actively seeks and eliminates discharges to the storm water conveyance system. Code Compliance Officers respond to enforce the Storm Water Ordinance and cite/educate businesses and residents who reportedly violate the ordinance with illegal discharges.	Implementation	Level 1: Compliance Level 2: Public Awareness Level 3: Modification of Behavior	Number of calls reported and responded	Of 67 dry weather monitoring sites in the Chollas Creek Watershed, 24 exceeded for one or more analytes. Of those only two had discrete sources and were referred to Code Enforcement Officers for action. Due to understaffing issues, not all referrals are followed up. Code Enforcement Officers prioritize calls based on significance of discharge.
Tier I SUSMP and Development Regulations (City-5019)	The City incorporates SUSMP requirements on applicable development and redevelopment projects City-wide. Depending on the type and size of the projects, SUSMP requirements could include site design, source controls, and treatment controls such as LID.	Implementation	Level 1: Compliance	Projects permitted subject to SUSMP	In FY09 the data tracking system to distinguish SUSMP projects from standard projects and priority development projects was not utilized correctly, and therefore this data is not available.
Tier I Household Hazardous Waste Collection Program (City-5020)	The City's Environmental Services Department runs this program which seeks to eliminate illegal discharges associated with the improper use and disposal of household hazardous materials. Methods include one-day collection events, a permanent collection facility, and education programs.	Implementation	Level 1: Compliance Level 2: Public Awareness Level 3: Modification of Behavior	Tons of household hazardous waste collected	483 tons of household hazardous waste was collected Citywide.
New Activities					
	N/A				